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PATENT & TRADEMARK OFFICE

ABSTRACT OF THE DISCLOSURE

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Disclosed are methods for determining the presence or absence of a target nucleic acid (e.g. DNA) sequence in a sample nucleic acid, the method comprising: (a) exposing the sample to a detection agent comprising a colloid metal surface associated with a SER(R)S active species (SAS) such as an azo dye and with a target binding species (TBS) which may be PNA which is complementary to the target , and (b) observing the sample agent mixture using SER(R)S to detect any surface enhancement of the label wherein the binding of the TBS to the target sequence causes surface enhancement SAS. The detection agent may be exposed to the sample in step (a) as two or more separate components and will generally comprise a first agent and a second agent each having a different TBS, each TBS being capable of binding to the target sequence, and wherein the binding of the first and second TBS to the target sequence brings a metal surface associated with each TBS into proximity thereby causing surface enhancement of an SAS associated with one or both of the metal surfaces.